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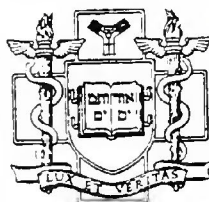


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XII.

Dissertation

On

The therapeutical application of Ice,

By

David Lewis Daggett, B. A.

of New Haven, Connecticut,

Candidate for the Degree of Doctor in Medicine.

On the Therapeutical application of Ice. —

The term Cold has by some been regarded as positive, but in its strict acceptation it is merely negative; denoting the absence of heat. We have to consider it as a remedial agent, & must refer rather to the means which produce the sensation than to the sensation itself.

The usual effects of a considerable abstraction of caloric are familiar, viz- the sensation called cold, a paleness of the skin generally, with sometimes a bluish tinge — a shrunken & contracted state, also a peculiar roughness or "Cutis anserina", while in some cases the hands & feet actually become smaller in size. A more intense degree of cold produces numbness, from its action on the vascular or perhaps on the nervous system — the whole surface of the body becoming deadened to the sense of touch, & the sense of taste less sensible than before, — the brain loses its activity & an almost overpowering tendency to sleep comes on, which, if indulged in, may terminate in death. — These are the effects of cold in a moderate & in an extreme degree, — &

They have given rise to a great difference of opinion as to the manner in which they are produced. By some, cold has been regarded as strictly sedative, while others have made it stimulant — both, tracing its influence upon the vascular & the nervous systems. More recently it is classed in the *Materia Medica* as a Refrigerant. The capillaries are supposed to have their action diminished, & thus indirectly to lessen the vigor of the heart & arteries. The same is thought to be produced whether it be applied externally or to the internal surface of the stomach. This may be regarded as approximating to something like a theory on its "modus operandi." But without advocating any particular theory, we pass on to consider the forms in which cold has been used as a remedy.

The use of cold as a remedy is not of modern origin. Hippocrates observed the great degree of heat in fevers, & as a natural & obvious remedy, he applied cloths wet in cold water to the hottest parts — abstracted blood, & administered internally cold water & cooling drinks. None surely can lay claim to more accurate observation than he. Since his day, cold has been more or less in vogue at different periods. — It has been employed to give tone & vigor to the system. As a tonic, in the forms of cold air & the cold bath,

it has long held a high rank. In cases of general debility & in those depending particularly upon a stumorous habit; in children naturally feeble & delicate, & in certain forms of diseases, as of Chorea, Rheumatism, Paralysis Dyspepsia &c cold bathing is of undoubted usefulness.

Cold has also been used in the form of evaporating lotions to relieve local inflammation.

But its principal use has been in the form of cold water, internally & by affusions. In some diseases this remedy has been extensively employed. The Persians are said to have treated Spasmodic Cholera in this way. By far the greatest use of it, however, has been in Fevers. Experience teaches that cold cannot be safely used in every stage of these affections. It becomes then an important inquiry, in what states of the system is it indicated?

Dr Currie, who has written largely upon this subject, lays down the following rules as to its use, which we quote. —

- 1.st Cold water is not to be used as a drink in the cold stage of the paroxysm of fever, however urgent the thirst.
- 2.^d When the hot stage is fairly formed, & the surface is dry & burning, cold water may be drunk with the utmost freedom.
- 3.^d But after the perspiration has become general & profuse, the use of cold drink is strictly forbidden.

In short - Cold water may be used internally or by affusions when there is no sense of chilliness present - when the heat of the surface is steadily above what is natural & when there is no general or profuse perspiration. "These rules we adopt as those which experience has proved correct, which are applicable, & must be strictly followed in whatever form we employ cold as a remedy."

But Cold has also been used in the form of Ice, & we will now notice the particular cases in which this form of it is indicated.

In Phrenitis - the application of Ice is considered one of the most powerful remedies. Evaporating lotions & Ice, have been much relied on to subdue violent inflammatory action of the Brain. Evaporating lotions when properly applied, produce, no doubt, beneficial effects, but in the manner in which they are often employed, they are more injurious than useful. To use the language of Dr Graves - "Whether applied to reduce local inflammation in any part of the body, or to cool the scalp in determinations to the head, cold lotions as ordinarily employed do infinitely more harm than good. The cold is applied at distant intervals, its effect soon ceases & reaction constantly takes place, leaving the part as hot or even hotter than before." - This is perhaps

the reason why cold is not more of a favorite with many; their applications not only failing to relieve, but aggravating the disease, simply from a want of care & attention, rather than from any fault in the remedy itself. All objections are obviated by using the remedy in the proper way. Instead of water or cold lotions, in most cases by applying to the head, bladders filled with pounded ice, a steady, uniformly cold temperature may be kept up so long as a single piece of ice remains. Or it may sometimes be better to employ the method recommended by Dr Stokes, which he prefers, & particularly in cases of children. — "to take a piece of smooth ice about the size of a dollar, & half an inch in thickness; this is to be placed in the hollow of fine cup sponge, & steadily moved over the whole shaven scalp. By this mode you prevent the pain which the iced cap produces, & the sponge absorbs the water produced by melting, & the application may be continued for any length of time." These modes are applicable, where the object is, not to make an impression on the system, but to relieve local inflammation.

In certain forms of Delirium & of Apoplexy, where the object is to give a shock to the system, cold water thrown forcibly upon the head, may be preferred. —

But Ice may also be used to relieve inflammation

of the Abdominal viscera. The general rule seems hitherto to have been to apply cold to the head, & heat to the thorax & abdomen. This has been the practice, more perhaps from regard to long established customs, than for any other reason. Says Dr Bell, of Philadelphia, - "I have used with marked benefit, the application of cold to the epigastric region, the heat of which, & indeed over the whole abdomen, is often so excessive in Typhus & Typhoid fevers. The patient will press with evidence of pleasurable sensations, the cold cloths or Ice folded in cloths to the epigastrium & ask for a renewal of them." Says Dr Gerhard,

"In Gastritis of a violent character, with intense heat & vomiting, it is a most excellent practice, & fully borne out by our own experience, to apply a bladder of Ice over the epigastrium, & remove as soon as it melts, but if the skin should become cool or the patient chilly, it should be immediately laid aside." Other testimony might also be adduced to the same point, but enough has been brought forward to prove that the practice is not only sometimes safe, but often very beneficial.

In Gastritis - the use of Ice internally is also indicated. Not only will it prove grateful by allaying the burning heat, but where there is irritability of the stomach, it is

particularly soothing. In severe cases where the stomach rejects nearly every kind of medicine, Ice will be craved by the patient, & will often quiet the gastric uneasiness when other remedies have been tried in vain. — Some have apprehended danger from its use in this disease, & they argue, that as persons, when heated by exercise, have brought on fever & death by taking a quantity of cold water or Ice, it produces gastric inflammation. But the states of the system in the two cases are entirely different. In Gastritis the heat is steadily above the natural standard, but after exercise the heat is not uniform, perspiration is usually taking place, & this, in accordance with the rules we have given, forbids the administration of cold.

On this point the testimony of Dr Stokes is decided — "Depends upon it, there is no danger in employing either Ice or cold water in Gastritis. There is nothing so grateful to the patient as Ice. Let a quantity of it be broken into small, pieces of the size of a walnut; let your patient take one of these pieces & having held it in his mouth for a few moments to soften down its angles, let him swallow it whole." Numerous cases are on record in which this remedy has allayed the most severe irritations of the stomach, & which justly entitle it to the character of a useful Anti-irritant.

In Fevers, also, to allay thirst, Ice is of service. — The effervescing mixtures are more commonly administered for this symptom, & sometimes with relief. But they as often do injury by distending the stomach excessively & producing a tendency to tympanites. The most harmless fluids when taken constantly will bring on a sense of heaviness & oppression in the stomach which tends only to increase the already irritable state of the nervous system. Nausea, pain & symptoms of intestinal irritation may be frequently the consequences of even the mildest liquid indulged in too freely. The patient's thirst is incessant & induces him to call for drink almost constantly. This thirst as it is confined almost entirely to the fauces, may be relieved better by a small quantity swallowed slowly, than by a large quantity taken at once. A small piece of Ice held in the mouth & slowly dissolved is recommended by Prof. Ives, & is found to afford relief for this symptom better than any thing else.

In Hemorrhages also of various forms, Ice is indicated. In Epistaxis, the flow of blood has often been checked by the application of cold to the neck, the back or to the genital organs. The most common remedy of the nursery consists in slipping a cold key or piece of metal down the back.

So that the influence of this remedy is not confined merely to the part with which it is in contact, but by sympathy produces its effects on distant parts. Says Dr Watson of London, — "next to venesection, astringents constitute the great resource against actually existing hemorrhage, & among these, cold is one of the chief. It may be placed in direct contact with the bleeding surface, as when Ice is swallowed to restrain Haematemesis, or cold water injected into the rectum in exhausting Hemorrhoids. Or it may be applied as near as possible to the seat of hemorrhage, as to the chest in Haemoptysis; to the epigastric region in hemorrhage from the stomach; or to the perineum or lower part of the abdomen in hemorrhage from the intestines or urinary organs."

In Uterine Hemorrhage, cold is an important remedy. It is one upon which certain reliance can be placed.

Perhaps no one remedy more uniformly produces firm & vigorous contraction of the uterus than cold. Ice may be applied to the abdomen over the region of the uterus, or in the form of iced water it may be injected into its cavity, or what is equally & perhaps more beneficial, snow may be crowded into the vagina, as tried by Dr Levi Ives of this city.

In Haemorrhoids - Ice is useful. -

There are states of these affections which the common applications of heat & moisture will not relieve, which almost every remedy seems only to aggravate. In such cases a cure is often effected by enemata of cold water. But where the tumors are external & much inflamed, occasioning excessive irritations of the system, bladders of powdered Ice applied to the part are found to soothe & allay the irritations.

In Strangulated Hernia, Ice has been found of great benefit, favouring by its astringent power the reduction of the part.

In Prolapsus Ani, also, it has been used with the same result.

In Ophthalmia, cloths wet in iced water & constantly applied, are found very efficient to subdue the inflammation.

In Infantile Convulsions, Ice has been used. A case is reported by Dr Todd of London, in which Ice was of great service. After having lanced the gums, leeches & administered enemata freely, "Ice to the back of the neck & spine was then advised, with the view of calming by the sedative agency of cold, the irritable state of that

portion of the cerebro-spinal axis which was thought to be affected. The happiest results followed." Immediately on its application, the breathing became easier, the pulse fell rapidly & in ten minutes the convulsions entirely ceased." In this case the Ice proved a highly useful auxiliary. The same effect would perhaps follow its use in many cases of extreme irritability of the spine.

These are some, though not all, of the particular diseases in which this remedy is found useful. From its effects in these it certainly merits the character of a valuable remedy. Though it may not in every case be considered as effecting a cure by its own powers alone, yet it may be regarded as an important auxiliary. If the effects of cold in its various forms were ably investigated, the result would doubtless be the more extensive employment of it as a remedy in disease.

David L. Daggett.



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